

## ***Amendments to the Claims***

***The listing of claims will replace all prior versions and listings of claims in the application:***

Listing of Claims:

Claims 1 through 12 (currently cancelled without prejudice)

Claim 13 (currently cancelled)

Claim 14 (currently cancelled)

Claim 15 (currently cancelled)

Claim 16 (currently cancelled)

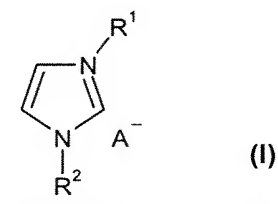
Claim 17 (currently amended): ~~The method according to claim 1~~ A method of performing headspace gas chromatography using ionic liquid as solvents comprising the steps of dissolving or dispersing a sample in at least one ionic liquid, wherein the ionic liquid is a molten salt selected from the group consisting of 1-butyl-3-methylimidazolium hexafluorophosphate, 1-hexyl-3-methylimidazolium hexafluorophosphate, 1-octyl-3-methylimidazolium hexafluorophosphate, 1-decyl-3-methylimidazolium hexafluorophosphate, 1-dodecyl-3-methylimidazolium hexafluorophosphate, 1-ethyl-3-methylimidazolium bis((trifluoromethyl)sulphonyl)amide, 1-hexyl-3-methylimidazolium bis((trifluoromethyl)sulphonyl)amide, 1-hexylpyridinium tetrafluoroborate, 1-octylpyridinium tetrafluoroborate, 1-butyl-3-methylimidazolium tetrafluoroborate, 1-methyl-3-ethyl imidazolium chloride, 1-ethyl-3-butyl imidazolium chloride, 1-methyl-3-butyl imidazolium chloride, 1-methyl-3-butyl imidazolium bromide, 1-methyl-3-propyl imidazolium chloride, 1-methyl-3-hexyl imidazolium chloride; 1-methyl-3-octyl imidazolium chloride, 1-methyl-3-decyl imidazolium chloride, 1-methyl-3-dodecyl imidazolium chloride, 1-methyl-3-hexadecyl imidazolium chloride, 1-methyl-3-octadecyl imidazolium chloride, 1-methyl-3-octadecyl imidazolium chloride; ethyl pyridinium bromide, ethyl pyridinium chloride, ethylene pyridinium dibromide, ethylene pyridinium dichloride, butyl pyridinium chloride, benzyl pyridinium bromide, and mixtures thereof, and volatilizing the volatile components of the sample by headspace gas chromatography.

Claim 18 (original): The method according to claim 17 wherein the ionic liquid is selected from the group consisting of 1-octyl-3-methyl-imidazolium hexafluorophosphate, 1-hexyl-3-methyl-imidazolium hexafluorophosphate, 1-butyl-3-methyl-imidazolium hexafluorophosphate, 1-butyl-3-methyl-imidazolium tetrafluoroborate, 1-butyl-3-methyl-imidazolium trifluoromethanesulfonate, 1-

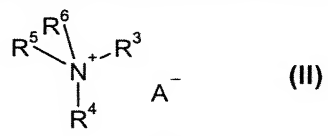
ethyl-3-methyl-imidazolium trifluoromethanesulfonate, and 1-ethyl-3-methyl-imidazolium bis-(trifluoromethanesulfonyl)-amide.

Claims 19 through 23 (previously cancelled)

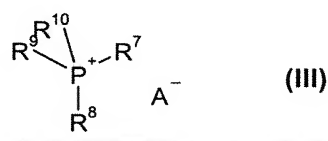
Claim 24 (new): A method of performing headspace gas chromatography using ionic liquid as solvents comprising the steps of dissolving or dispersing a sample in at least one ionic liquid, wherein the ionic liquid is a molten salt selected from the group consisting of an imidazolium salt having formula (I)



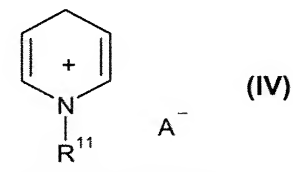
wherein R¹ and R² are independently selected from the group consisting of a C₁-C₁₈ aliphatic group and a C₄-C₁₈ aromatic group, and A⁻ is an anion; an ammonium salt having formula (II)



wherein R³, R⁴, R⁵ and R⁶ are independently selected from the group consisting of a C₁-C₁₈ aliphatic group and a C₄-C₁₈ aromatic group, and A⁻ is an anion; a phosphonium salt having formula (III)



wherein R⁷, R⁸, R⁹, and R¹⁰ are independently selected from the group consisting of a C₁-C₁₈ aliphatic group and a C₄-C₁₈ aromatic group, and A⁻ is an anion; a pyridinium salt having formula (IV)



wherein R¹¹ is selected from the group consisting of a C₁-C₁₈ aliphatic group and a C₄-C₁₈ aromatic group, and A⁻ is an anion; and mixtures thereof.